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AUTHOR Cave, Julie; And Others
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ABSTRACT

This instructor's manual consists of materials for use in presenting a course in the occupational area of pharmacy aide. Included in the first part of the guide are a program master sequence; a master listing of instructional materials, equipment, and supplies; an overview of the competency-based vocational education (CBVE) system; and guidelines and strategies for addressing students with special needs. The major part of the publication comprises instructor's guide sheets, master copies of the instructor's final checklist, master copies of the check-out activity sheets, answer keys for the check-out activity sheets, a list of recommended references for the pharmacy aide modules, and student modules. Provided in the student modules are learning activities, instruction sheets, and self-check activities dealing with the following topics: learning about careers in pharmacy, learning about medications, maintaining patient profiles, and counting tablets and pouring liquids. (MN)

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Instructor's Manual

HEALTH SERVICES: CLINICAL

Pharmacy Aide

Competency - Based Education

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Instructor's Manual

for

HEALTH SERVICES: CLINICAL

Pharmacy Aide

Materials Developed By:

Julie Cave
Health and Personal Services Occupations Unit
Division of Post-Secondary Program Management
Bureau of Vocational Education
Kentucky Department of Education

Materials Revised By:

Judy Russell Walters
Unit for Curriculum Development
Division of Materials and Curriculum
Office of Research and Planning
Kentucky Department of Education

Materials Edited By:

Bobby Crosswhite
Office of the Superintendant of Public Instruction
Kentucky Department of Education

1983

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[Student Package]

FOREWORD

The purpose of this instructor's manual is to aid the instructor in managing the use of modules for Health Services: Clinical Area of the Pharmacy Aide. Review the TABLE OF CONTENTS for the location of the Instructor's Guide Sheets for these modules.

A PROGRAM MASTER SEQUENCE, a HEALTH SERVICES: CLINICAL COMPETENCIES (Sample Evaluation) for the pharmacy aide, and a MASTER LISTING OF INSTRUCTIONAL MATERIALS, EQUIPMENT, AND SUPPLIES have been prepared to provide an over-all view of the program and the instructional needs.

To aid the instructor in understanding competency-based vocational education, a section is provided about the CBVE instructional system. For helping the instructor meet the needs of special students, a section about identifying students with special needs, formulating a basic approach to teaching these students, and using special strategies and redirecting teaching strategies is provided.

A RECOMMENDED REFERENCES LISTING FOR PHARMACY AIDE MODULES has been prepared, so the instructor can post the required readings for the modules. During orientation to the use of modules, the instructor can explain the use and location of the reference listing. This will aid classroom management.

ACKNOWLEDGEMENTS

The Health Services curriculum effort is the result of the contributions of a number of people. We wish to thank each of the following individuals for their part in this endeavor.

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Barren County AVEC
Glasgow, KY

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Bowling Green AVTS
Bowling Green, KY

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Editor

Bobby Crosswhite

- For support services from the Unit of Curriculum Development:

Word Processor Typists

Renita Van
Sheila Warren

Artists

Mildred Hackney
Gladys Owens

PROGRAM MASTER SEQUENCE

HEALTH SERVICES: CLINICAL

Pharmacy Aide

Code Number	Module Title	Module Stock Number
HS-PA-1	Learning About Careers in Pharmacy	5-980
HS-PA-2	Learning About Medications	5-982
HS-PA-3	Maintaining Patient Profiles	5-983
HS-PA-4	Counting Tablets and Pouring Liquids	5-984

HEALTH SERVICES: CLINICAL COMPETENCIES

PHARMACY AIDE--D.O.T. #074.387-010

(Sample Evaluation)

Student's Name: _____

Address: _____

Date Entering Program: _____

Date Completing Program: _____

Evaluation Code*:

0. The task was not applicable.
1. The student completed the task with close supervision.
2. The student completed the task with limited supervision.
3. The student completed the task without supervision.
4. The student completed the task at job-entry level.

EC*	TASK LIST	MODULE NUMBER
_____	1. Name the accrediting agency for pharmacists.	HS-PA-1
_____	2. Draw a chart depicting the organization of the pharmacy department.	HS-PA-1
_____	3. Match pharmacy abbreviations with the correct terms.	
_____	4. Practice safety in the pharmacy area.	
_____	5. Define a list of pharmacy terms.	
_____	6. Use the PDR.	HS-PA-2
_____	7. Assist with packaging and labeling medications under supervision.	
_____	8. Distribute medications to patient units.	
_____	9. Differentiate between generic and brand name drugs.	

EC*	TASK LIST	MODULE NUMBER
	10. Fill stock bottles.	
	11. Maintain purchase order file.	
	12. Collect requisitions.	
	13. File prescriptions.	
	14. Maintain patient profiles.	HS-PA-3
	15. Count tablets.	HS-PA-4
	16. Pour liquids.	HS-PA-4
	17. Operate cash register.	
	18. Make change.	
	19. Calculate sales tax.	
	20. Update prescription files.	
	21. Stock shelves.	
	22. Select containers.	
	23. Clean and maintain the pharmacy department.	
	24. Operate pneumatic tube.	
	25. Set up label making machine.	
	26. Prepare labels.	
	27. Store and distribute prepackaged pharmaceuticals.	
	28. Price items using price list.	
	29. Return equipment and supplies to designated place.	
	30. Return bulk medications to correct stock area.	
	31. Maintain delivery records.	
	32. Dispense at counter.	
	33. _____	
	34. _____	
	35. _____	
	36. _____	
	37. _____	
	38. _____	
	39. _____	
	40. _____	

MASTER LISTING OF INSTRUCTIONAL MATERIALS, EQUIPMENT, AND SUPPLIES

- Recommended References:

Birchenall and Streight, Introduction to Health Careers. Philadelphia, PA: J. B. Lippincott Company, 1978.

Bureau of Labor Statistics, Occupational Outlook Handbook, 1978-79 Edition. Bulletin 1955. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1978.

Driever and McClaugherty, Working in Pharmacies (Student Manual). Austin, TX: The University of Texas at Austin, 1982.

Physician's Desk Reference. Oradell, NJ: Medical Economics Company, Inc., 1983.

Simmers, Diversified Health Occupations. Albany, NY: Delmar Publishers, 1983.

- General Instructional Equipment:

--Film projector
--Filmstrip projector
--Cassette tape player/recorder
--Overhead projector
--Projection screen

- Equipment and Supplies:

--Drug stock containers
--Measuring tools

OVERVIEW OF THE CBVE INSTRUCTIONAL SYSTEM

Competency-Based Vocational Education

Using the Instructor's Manual

Managing a CBVE Program

Competency-Based Vocational Education

The purpose of this manual is to aid the instructor in implementing a competency-based instructional program. It is intended as a guide and resource for the teacher using CBVE modules or task assignment sheets.

CBVE is based on competency. The instructional system incorporates (1) the competencies for specific occupations built around worker tasks (2) performance objectives and (3) the specified minimum standards of performance required for entry-level jobs. The performance objectives include: (1) the skills (or tasks) which the student must learn; (2) the conditions under which the student must perform; and (3) the standard or level of achievement to which the student must perform. The learning activities are directly related to job skill.

In addition to competency development, the materials address (1) readability; (2) variety of learning activities; (3) elimination of sex stereotyping; and (4) curriculum modification for disadvantaged and handicapped students.

The Curriculum Unit which develops and implements competency-based instructional materials is located in the Kentucky Department of Education, Office of Research and Planning, 1912 Capital Plaza Tower, Frankfort, KY. 40601.

In addition, each vocational region has a CBVE Contact Person to assist with implementation. Any problems or concerns about your CBVE program should be discussed with your Regional Contact Person.

Each teacher is to receive inservice involving how to conduct a competency-based program and utilize competency-based materials prior to implementation. In addition, Inservice Education modules are available as references, giving detailed suggestions for setting up and managing a CBVE program.

Using the Instructor's Manual

This instructor's manual is divided into three sections: course introduction, program organization, and an instructor's guide to learning activities.

The Instructor's Guide to Learning Activities is the heart of this manual. It contains a brief listing of the contents of each module with suggestions for their use. Removing the guide sheets and filing them with the corresponding modules will give the instructor the complete materials for lesson planning in one place.

Format is consistent throughout all modules. Each contains the same basic components:

Introduction - tells the student what he/she will learn and why it is important.

Directions - lists any prerequisites to the module and directs the student to either the learning activities or check-out activity.

Objectives - clearly state what the student is expected to know or do, under what conditions, and how well.

Learning Activities - a "road map" for the student to follow in going through the module or assignment sheet; lists the various activities the student will perform in learning the task.

Instruction Sheets - may be job sheets, information sheets, etc., that provide the student with important information or practice.

Student Self-Checks - brief, objective tests that serve as progress checks for the student; usually cover the cognitive information presented in the module.

Instructor's Final Checklist - tells the student and the instructor exactly what the student will be evaluated on in the check-out activity; the instructor uses this sheet to rate the student's performance.

Check-Out Activity tells the student what he/she will be asked to do for the final test or performance.

The Instructor's Guide Sheets in this manual present the essential information in the modules in capsule form. In addition, they list: notes and suggestions for instruction; the recommended references and audiovisuals; necessary tools and equipment; and space for teacher's notes.

The modules are designed to be left intact. Students should be reminded not to write on any of the pages. In some cases, they will be required to obtain duplicates or sheets like the ones shown. A supply of all master copies the instructor elects to use should be made in advance and filed with the modules or placed in a file for ready use.

There are also pages that the student needs that are not contained within the modules. These are usually the check-out tests, but they may also be other materials which are supplemental to the actual module. These pages should also be filed separately and kept by the teacher. They should be accessible to the students at the appropriate time.

Managing a CBVE Program

Managing a CBVE program is no easy task. However, if time and care are taken in setting up the program, it can be managed with a minimum of difficulty. The important thing is to implement a system that will work in your classroom, and then carry it through consistently. For example, you will want to establish some procedures for the storage and use of modules, student folders, reference books, slide-tape presentations, audio-visual equipment, etc. Refer to Module IE-8, "Managing a CBVE Program" for specific suggestions.

As with any change or innovation in classroom procedure, students will be more receptive to CBVE if you spend time orienting them to the new way of doing things. When you first implement your program, set aside a day or two to familiarize students with the modules or task assignment sheets and accompanying media. Demonstrate the proper use of the audio-visual equipment. Familiarize students with your management system, i.e., where to obtain modules or assignment sheets and return them when completed, where to file check-out activities, etc. Remember that your enthusiasm about CBVE is catching! If students see that you believe in CBVE they will much more likely accept and use it. Don't forget to orient additional students who come into your program later in the year. (For more suggestions, see Module IE-8, "Managing a CBVE Program.")

Since student demonstration of competency in a task is an essential concept in CBVE, the modules or assignment sheets have been designed for individualized instruction. This does not mean that material cannot occasionally be presented in large or small group settings. Some lessons, such as safety, might best be presented to the whole class, but students must individually demonstrate their knowledge of safety procedures and practices. In some programs, small group discussion may facilitate the understanding of some concept, or a team of three to four students might work together on some project. When checking out, however, each student must be able to demonstrate his/her competence in performing each task. See Module IE-8 for additional suggestions.

Teachers often ask about grading students. There is no easy solution to the problem of grading in a competency-based program. Some suggestions are given in Module IE-9, "Evaluating Students and Keeping Progress Records." The primary basis for grading is student performance on the Instructor's Final Checklist. You must devise a system of assigning grades. (See IE-7, "Evaluating Students and Keeping Student Progress Records.")

ADDRESSING STUDENTS WITH SPECIAL NEEDS

Identifying Students with Special Needs

Formulating a Basic Approach to Teaching

Using Special Strategies

Redirecting Teaching Strategies Usually Used

ADDRESSING STUDENTS WITH SPECIAL NEEDS

Some students may need special help in achieving competency. Ideas are presented here for helping identify those students and modifying materials and techniques to help them succeed.

Identifying Students with Special Needs

Generally speaking, those students who cannot succeed in the regular vocational education programs without special help are termed "students with special needs" (Vocational Educational Act of 1963 and Amendments). Persons most likely to be identified as students with special needs are the academically and economically disadvantaged and the handicapped--the mentally retarded, deaf and hard of hearing, speech impaired, emotionally disturbed, orthopedically (physically) impaired, health impaired, and learning disabled.

The handicapped are further identified as those (1) with a physical or mental disability that substantially impairs one or more major life activity--walking, seeing, hearing, speaking, working, or learning; (2) who have a record or history of such impairment or condition; and (3) are regarded as having an impairment (Rehabilitation Act of 1973). Women, minorities, the limited English speaking, and others likely to be underemployed or striving for equal opportunity in employment, when meeting the criteria for academic or economic deprivation, are specifically identified in the disadvantaged group to be given special help.

Formulating a Basic Approach to Teaching

Society recognizes the right of every individual to an appropriate education, and the law mandates giving persons with special needs an equal chance. In brief:

1. The Vocational Education Amendments of 1976 give special emphasis to developing and providing programs of vocational education for "those with special educational handicaps" and reserve moneys to do so.

2. The Education for All Handicapped Children Act of 1975 assures that all handicapped children between the ages of three to twenty-one have available to them a free, appropriate public education which relates to their unique needs and is provided in the least restrictive environment.

3. The Rehabilitation Act of 1973 prohibits discrimination on the basis of handicap in any program or activity receiving federal financial assistance and directs employers to take affirmative action in hiring handicapped people.

4. The Education Amendments of 1972 prohibit discrimination on the basis of sex in educational programs receiving or benefiting from federal financial assistance.

5. The Civil Rights Act of 1964 prohibits discrimination in employment on the basis of sex, race, color, religion, or national origin in any program or activity receiving federal financial assistance--including training for employment.

We must, then, provide equal opportunity to learn in our instructional processes.

Basically, an approach to teaching which recognizes individual differences in all students provides the best atmosphere for disadvantaged and handicapped students. This approach allows students to work at different rates; involves large group, small group, and individual instruction; incorporates a variety of instructional materials, media, and teaching techniques; and involves a variety of learning activities--reading, doing, discussing, listening, viewing, experiencing, sharing, cooperating, relating, using the senses, etc. It gives disadvantaged and handicapped students the dignity of exploring, learning, and facing the same experiences and responsibilities as other students, without limiting their possibilities by stereotyped concepts of what they can or cannot do.

It involves being organized, with students completely familiar with the teaching/learning plan. When beginning a CBVE class, for example, explain what learning to attain competencies means, how the students will carry out their work, how to use the modules, where to find materials, how and when tests will be given, how "passing" or competency is determined, and what your role as a teacher is.

It also means teacher direction for those students who are not self-directed learners--those with poor academic backgrounds who thrive on teacher interaction and need immediate feedback, instruction simplified, procedures modified, social development as well as specific job skills, role models, or other special aid. For these students, the learning activities described in the modules may become the teacher's lesson plan and utilized in large-group and small-group settings before the individual student attempts doing learning activities alone. The teacher-directed class might proceed as follows: teacher introduction to tasks to be performed by module or cluster of modules, explanation of what is to be learned and why, presentation of information in small chunks, demonstration of how, student tryout and practice, time for questions and answers, trial test followed by reteaching, and evaluation. The teacher will employ a variety of strategies to address the learning needs and styles of the student.

Using Special Strategies

In order to determine the most appropriate teaching strategies, assess the class for kinds of special help required, and develop a plan for meeting any unique needs. Refer to Mainstreaming Guidebook for Vocational Educators by Dahl, Appleby, and Lipe, Olympus Publishing Company, Salt Lake City, Utah 84105, for modifications and general classroom strategies for meeting the unique needs of the different handicapped populations.

Also, enlist the advice and help of employers, support personnel, and agencies and organizations serving disadvantaged and handicapped populations in your school system and geographic area.

Redirecting Teaching Strategies Usually Used

Many of the strategies usually used with regular students may be redirected or modified and also provide effective learning activities for students with special needs. An explanation of how this may be done follows.

AUDIO-VISUALS (films, filmstrips, slide/tape, videotapes, and ETV and commercial television programs). The combination of sight and sound provides more effective communication than either sight or sound alone. Audio-visuals may be used to supplement or replace other methods of presenting information. The hearing impaired will require captioning, signing, or a printed script written at the appropriate reading level or presenting only essential details. The visually impaired may glean information from the sound source, but additional explanation will need to be provided for any visual display of information which is not explained adequately by the narration. Some audio-visual presentations, particularly 8 mm and 16 mm films, may move too fast for the information to be grasped and need to be evaluated with this in mind.

CONTACT WITH WORK ENVIRONMENT. Handicapping conditions, limited finances, geographic isolation, cultural difference, limited communication skills, and social isolation have caused disadvantaged and handicapped persons to have little contact with the world of work. Familiarity with the work setting in which a particular job takes place, relationships with other workers, business use of the telephone, relationship of one's job to other jobs in the same business are just a few examples of areas where special students may require special exposure by means of field trips, spending a day on the job, viewing films, or having additional training sessions.

NOTE: For those with physical impairments, field trips, on-site job observations, and work experience opportunities will be limited to "accessible" businesses in the community. Before deciding where to go, determine whether the facilities are accessible.

DEMONSTRATION AND TRYOUT. Demonstration by teacher, experienced workers, and previously trained students provide reliable role models for learners. Steps, procedures, precautions, physical manipulation, and techniques are imprinted visually in the order and at the time they should occur in task performance. Immediate tryout of the task following the demonstration or an immediate attempt of each step, technique, or procedure as it is demonstrated provides students direct involvement, permits correction and clarification, and promotes retention. Tryout also identifies areas in performance steps, techniques, tools, and work environment where handicapped students need to have modification in order to perform tasks and meet industry standards.

ELIMINATION OF STEREOTYPING. Disadvantaged and handicapped people face more than the sex role stereotyping myths in their quest for employment. The following are just a few examples: "Deaf people are dumb." The best job for blind people is tuning pianos." "He'll never be able to do that; he's a cripple." "Mr. _____ was no good; so will be his son." "She can

never do that; her parents didn't go to college." In addition to overcoming the unfounded assumptions of others, disadvantaged and handicapped often have equal misconceptions about themselves thinking: "I can never do that." "____, who is deaf does assembly line work; that's what I'll do, too." "I'll never be anybody."

Overcoming stereotyping may begin with using sex fair instructional materials and media, exploring interests and abilities, exploring two or three nontraditional jobs, or complimenting accomplishments. It may include planning how to reach an educational goal, providing role models (person with like handicap or socioeconomic background who has succeeded), as well as observing persons in nontraditional work roles. It means doing whatever raises aspirations and increases self-worth. It means attempting to eliminate underemployment.

EMPLOYER INVOLVEMENT. Programs with employer input are more practical and in line with the current needs of the job market. Employers who make input feel a special kinship to the program and get a chance to see the students before meeting them in the job market.

For disadvantaged and handicapped students, employer involvement offers a very special opportunity to remove common misconceptions about their capabilities. It enables employers to help with any modification needed, see students performing tasks, and observe how the students relate to others. It gives students a chance to prove that they can do the work, that they will not endanger themselves or others, and that they will not increase expenses. These are major employer concerns. Both students and teachers should be prepared to provide reassuring answers and evidence to show there is no more risk than with the nonhandicapped.

Employers may be involved by giving class presentations; giving suggestions for program improvement and modifications; conducting mock interviews; and providing work experience, observations and worker interviews, job analysis, etc.

HANDS-ON EXPERIENCES, PROBLEM SOLVING, PERSONAL INVOLVEMENT (work samples, tryout exercises, games, role playing). Being involved in a sample of work through completing a product, performing related paper work, or role playing interpersonal relationships on the job keeps students interested, holds attention to the learning tasks, and injects the realities of working and job performance in the teaching/learning situation. It makes the student feel that the instruction is practical and valuable. Accomplishment means "qualified for work"--a great boost to self-esteem for those who doubt self-worth.

The instructor and other students should avoid taking over when handicapped students are awkward or slow in completing a task. The student cannot master the skill if someone else does it.

ILLUSTRATIONS (pictures, graphs, bulletin boards, transparencies, and other visuals). The disadvantaged, the mentally retarded, and the hearing impaired, particularly, are especially oriented to visual methods of learning. Other students, with the exception of the blind and some visually impaired, will appreciate visual presentation of information to

be learned. Student handouts, with the steps to a task illustrated and briefly and simply explained, are especially helpful. Captioning and brief explanations are important supplements. Many illustrations may be adapted for the visually impaired by making them tactile (so that they can be felt). Sometimes enlarged print and bold outlines help.

INTERACTION; INDEPENDENCE. Economic deprivation, geographic isolation, cultural isolation, and restrictions on mobility and social relationships imposed by physical impairments have limited the experiences of the disadvantaged and the handicapped in the community at large. Many have no previous work experience, little observation of the worker's daily routine, and limited social experiences. They have been sheltered at home, absent from the scene, at best onlookers.

So that they will not continue in this role after vocational training, experiences in the community and involvement with nonhandicapped people and other students are of utmost importance. These students, as well as their families and the working community, need proof that they can function independently and competently. They need to establish contacts who can serve as references to recommend them as competent workers who can relate to others.

Field trips, worker interviews, cooperative work experience, spending a day on the job, giving talks before civic groups are, therefore, important to the acclimation of disadvantaged and handicapped students to the world of work. Participating in team work projects with other students; pairing with a slower or faster learning peer; pairing with a nonhandicapped, a nondisadvantaged, or person from another race or culture will help foster understanding and promote learning communication skills. Teaching special units dealing with related communication and social skills will also be necessary; for example: office etiquette, relationships with employer and other employees, daily work expectations which are not direct task performance, telephone skills, appropriate dress and grooming habits, to name a few.

LISTENING (explaining, discussing, reacting orally). Learning by listening is an important tool to the disadvantaged, the visually impaired, speech impaired, learning disabled, and others who "prefer to be told" or "have to be told" rather than read about it.

The visually impaired require identification of familiar sounds in the work place to determine location of different work areas, equipment functions, and hazards. The hearing impaired require sight substitutions, such as indicator lights, for critical sounds they cannot hear. They may use lip reading, interpreting, and sound conduction or amplification devices. The retarded need to become accustomed to the sounds of the work place so that they can work without being distracted. The speech impaired need to be accorded the right to listen although they may have trouble participating, or not be able to participate orally.

When information is presented for listening, instruction in how to listen (what to listen for) is important. An outline of the information presented, supplemented by visuals, tryout exercises, showing, completion

of a guidesheet questions to be answered, analysis of cases or problem situations, or other application activities will enhance use and retention of information heard.

Listening is a vocational skill as well as a learning skill. Workers must be able to receive information by listening as well as provide information for listening. Most on-the-job instruction is given orally. Explanation must be given to and received from customers, co-workers, and supervisors.

READING HELPS. Being fluent in the technical vocabulary or language of the job and able to read at the level required by the job is a part of occupational competency. On-the-job reading requirements may vary from the reading of signs to following instructions given in technical manuals. The instruction given in reading, then, for vocational purposes, will depend on the reading skills possessed by the student and the reading requirements of the job. Whether or not a supplemental class in remedial reading is offered, the vocational instructor will find providing reading helps also helps provide job skill.

Braille materials, large print textbooks, magnifying devices, and recordings may be provided for the visually impaired. Materials may be simplified or outlined for the hearing impaired and others with limited language skills. The native language may be supplied above the English for critical information in textbooks used by the limited English-speaking. Familiarity with the setting in which the printed information is applied may be given via field trips, demonstrations, or films to make reading easier and more meaningful.

Students with exceptional reading problems may require the help of a special reading teacher or be enrolled in a remedial reading program. Some schools employ vocational reading teachers to assist vocational students with developing vocational reading skills and doing the reading required in their programs.

RECORDING AND RECORDINGS (tapes, records, radio programs). Information may be presented and gained by listening to recorded information rather than reading. This strategy will aid the nonreader, the poor reader, the visually impaired, the learning disabled, and others through use as a variation of teaching technique. Recording is also a useful tool for the deaf in notetaking; the recording script may be transcribed into print later by a hearing individual. It will also provide instruction for those who have missed initial classroom presentation of information or who need review. Recordings may be supplemented by slides and pictures.

RELATED MATH. Competency in math, like competency in reading, is more critical to some jobs than to others. Math is best taught in relation to the task of which it is a part. This instruction should incorporate basic math and remedial math instruction as needed. A cooperative or team teaching effort with the math teachers or related math instructors in the school will relieve the burden on the vocational instructor. Enough practice and application exercises should be provided to insure retention of the math operations involved. It is helpful to compile a list of the

math competencies needed to complete the training program, prepare an assessment test to determine student skills, and plan in the beginning a program which the student can follow to attain the basic math competencies prerequisite to the course. If the skills cannot be acquired simultaneously to the job skill training program, the student should postpone entry into the course until the prerequisite skills are attained. It may be necessary to prepare a special manual and modules to provide the related math instruction.

REMEDIAL AND RETENTION EXERCISES. Doing learning activities does not necessarily make students occupationally competent. Performance must be observed, misunderstandings clarified, procedures and techniques corrected, and repetition called for at future time. Lesson planning should anticipate theory and tasks with which students are likely to have difficulty, include additional practice exercises, and provide alternate approaches to teaching. Repetition for retention should be provided, such as repetition of information in different media presentations or use of different types of application exercises. Review sessions, keeping notebooks, completing work samples, doing live work, and solving cases will also help.

SAFETY. The Occupational Health and Safety Act has increased employer concern for safety and underscored the importance of providing safety instruction along with task performance. It is especially important for the handicapped in two ways: (1) to overcome employer concern about the handicapped person's ability to take care of himself/herself and not endanger the lives of others; (2) to identify and deal with situations which are hazardous for persons because of particular handicaps.

To meet these needs for safety instruction, the handicapped student not only needs the basic or general safety instruction related to the occupation but safety instruction or special safety provisions needed for a person with his/her particular handicap. An example is the installation of a blinking light to tell a person who is deaf that equipment is running.

NOTE: The Kentucky Department of Labor, Occupational Safety and Health Program, Division of Education and Training, Frankfort, Kentucky 40601, Phone: (502) 564-6895, offers training programs to help vocational instructors teach safety.

SUPPORT SERVICES. Some students will require emotional, social, and financial support in order to succeed in the instructional programs. Others will need career counseling and special assistance in becoming employed. Government agencies, special schools, special personnel, and organizations for disadvantaged and handicapped persons can provide this help. The following are examples and should not be considered an all-inclusive list: resource room teachers, rehabilitation counselors, guidance counselors, tutors, remedial teachers, instructors in special schools, occupational therapists, diagnostic specialists, media personnel, handicapped workers, workers who are members of a minority group, social workers, and others who can serve as role models. Survey the community to identify who serves the needs of disadvantaged and handicapped persons in your area and incorporate their assistance in related learning activities.

UNIQUE MODIFICATIONS (modified equipment, tools, learning aids, changes in work environment, adaptations in course or training program content). Some students require special help in meeting physical job requirements. When considering modification, it is important to concentrate on what the student can do. If at all possible, enable the student to function in the work environment as it is usually found. Employers look favorably on handicapped persons with this kind of preparation.

Rehabilitation centers; organizations and schools for the blind, deaf, dyslectic, disabled, and the mentally handicapped; and publishers and manufacturers of special instructional materials, aids, and equipment can offer aid in meeting unique needs. Consultation with special education personnel and rehabilitation counselors is a good starting point. The student should also be asked to make suggestions.

Care should be taken to insure occupational competency. Prospective employers should be shown how the modification operates in the work setting and how it increases efficiency.

The previously described list of strategies is not exhaustive. Others may be added. All will need to be directed toward the occupation for which training is being given, the students enrolled, the availability of instructional materials, and the community. It is also important to remember that what works well for one group of students or a particular student will not necessarily work well for another.

INSTRUCTOR'S GUIDE

TO

LEARNING ACTIVITIES

Instructor's Guide Sheets

Master Copies of the Instructor's Final Checklist

Master Copies of the Check-Out Activity Sheets

Answer Keys for Check-Out Activity Sheets

LEARNING ABOUT CAREERS IN PHARMACY

OBJECTIVE

Given a test about careers in pharmacy, answer the questions. The test must be completed with 100% accuracy.

CONTENTS OF MODULE

Instruction Sheets	Learning Activity Number
I BECOMING A LICENSED PHARMACIST.....	3
II THE RESPONSIBILITIES OF THE PHARMACIST ASSISTANT AND THE PHARMACY HELPER (AIDE).....	5

Student Self-Check

I CAREERS IN PHARMACY.....	7

Instructor's Final Checklist

LEARNING ABOUT CAREERS IN PHARMACY.....	8

CHECK-OUT ACTIVITY

Obtain a copy of the Check-Out Activity Sheet, CAREERS IN PHARMACY, from your instructor. Complete the test and return it to your instructor for evaluation.

Check-Out Activity Sheet

CAREERS IN PHARMACY.....	8
CAREERS IN PHARMACY--ANSWER KEY.....	8

RECOMMENDED REFERENCES

Birchenall and Streight, Introduction to Health Careers. Philadelphia, PA: J.B. Lippincott Company, 1978.

Bureau of Labor Statistics, Occupational Outlook Handbook, 1978-79 Edition. Bulletin 1955. Washington, DC: Superintendent of Documents, U.S. Government Printing Office, 1978.

Driever and McClaugherty, Working in Pharmacies (Student Manual). Austin, TX: The University of Texas at Austin, 1982.

LEARNING ABOUT CAREERS IN PHARMACY

LA#	NOTES AND SUGGESTIONS FOR INSTRUCTION	REFERENCES AND SPECIAL TOOLS AND EQUIPMENT	TEACHER'S NOTES
1		RECOMMENDED REFERENCE Driever and McClaugherty, Working in Pharmacies (Student's Manual), p. 1.	
2		RECOMMENDED REFERENCE Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 1-2.	
3		RECOMMENDED REFERENCE Driever and McClaugherty, Working in Pharmacies (Student's Manual), p. 2.	
4	You may want to supplement the reading by showing a film or filmstrip about careers in pharmacy, if one is available.	RECOMMENDED REFERENCES Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 3-4. AND/OR Bureau of Labor Statistics, Occupational Outlook Handbook, 1978-79 Edition, pp. 512-515. AND/OR Birchenall and Streight, Introduction to Health Careers, pp. 129-130.	
5			
6	Check each student's chart for completeness and accuracy. The chart should depict the organization of the personnel employed in the pharmacy department.		

LEARNING ABOUT CAREERS IN PHARMACY

LA#	NOTES AND SUGGESTIONS FOR INSTRUCTION	REFERENCES AND SPECIAL TOOLS AND EQUIPMENT	TEACHER'S NOTES
7	Student Self-Check		
8	Provide a copy of the Check-Out Activity Sheet for each student. Check their answers using the Answer Key provided in this manual. Use the Instructor's Final Checklist to check each student's performance.	--Copies of the Check-Out Activity Sheet, CAREERS IN PHARMACY. (A Master Copy and an Answer Key are provided in this section of the manual.) --Copies of the Instructor's Final Checklist. (A Master Copy is provided in this section of the manual.)	

INSTRUCTION SHEET I

BECOMING A LICENSED PHARMACIST

ANSWER KEY

1. The licensing and practice of pharmacy within each state are controlled by state law.

2. Pharmacists are controlled by the State Board of Pharmacy.

3. To practice pharmacy in any state, a pharmacist must be a registered pharmacist.

4. What qualifications must a person meet to obtain a license to practice pharmacy?

   --Be a graduate of an accredited pharmacy college.
   --Pass a state board examination.
   --Have a specified amount of experience (internship) under the supervision of a registered pharmacist.

5. List four responsibilities of a pharmacy helper (aide).

   The pharmacy helper (aide) assists the pharmacist by performing the following duties.

   --Mixes pharmaceutical preparations under the direction of a pharmacist.
   --Prepares inventory and orders supplies to maintain stock levels.
   --Receives and places supplies in stock.
   --Labels drugs, chemicals, and other pharmaceutical preparations as directed by a pharmacist.
   --Delivers drug orders and runs errands.
   --Cleans equipment and work areas in pharmacy.
   --Washes and sterilizes bottles, beakers, and other glassware according to the prescribed methods.
   --Computes the charges for drugs.

CHECK-OUT ACTIVITY SHEET

CAREERS IN PHARMACY

Directions: Answer the following questions. Return the completed test to your instructor for evaluation.

1. List three qualifications a person must meet in order to obtain a license to practice pharmacy.

2. To practice pharmacy in any state, a pharmacist must be a _____ pharmacist.

3. Students in pharmacy must complete a _____-year course of study.

4. List four areas of pharmacy.

5. List five responsibilities of the pharmacy helper (aide).

CHECK-OUT ACTIVITY SHEET

CAREERS IN PHARMACY

ANSWER KEY

1. --Be a graduate of an accredited pharmacy college.
   --Pass a state board examination.
   --Have a specified amount of experience (internship) under the supervision of a registered pharmacist.

2. registered

3. five

4. Any four of the following:

   --research
   --teaching
   --manufacturing
   --wholesale distribution of drugs
   --sales
   --retailing
   --management

5. Any five of the following:

   --Mixes pharmaceutical preparations under the direction of a pharmacist.
   --Prepares inventory and orders supplies to maintain stock levels.
   --Receives and places supplies in stock.
   --Label drugs, chemicals, and other pharmaceutical preparation as directed by a pharmacist.
   --Delivers drug orders and runs errands.
   --Cleans equipment and work areas in pharmacy.
   --Washes and sterilizes bottles, beakers, and other glassware according to the prescribed methods.
   --Computes the charges for drugs.

INSTRUCTOR'S FINAL CHECKLIST

LEARNING ABOUT CAREERS IN PHARMACY

The student should be evaluated according to the performance ratings in the box. Indicate on a separate sheet of paper whether the student's performance for each item is Fully Accomplished, Partially Accomplished, Not Accomplished, or under certain circumstances, Not Applicable.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will decide which learning activities must be repeated.

Fully Accomplished	Partially Accomplished	Not Accomplished	Not Applicable

The student completed Check-Out Activity Sheet, CAREERS IN PHARMACY, with 100% accuracy.....	[ ]	[ ]	[ ]	[ ]

LEARNING ABOUT MEDICATIONS

OBJECTIVE

Given a test about medications, answer the questions. The test must be completed with 90% accuracy.

CONTENTS OF MODULE

Instruction Sheets	Learning Activity Number
I USING THE PHYSICIANS' DESK REFERENCE	2
II PRESCRIPTION DRUGS IN THE PHARMACY	3
Student Self-Check	
I LEARNING ABOUT MEDICATIONS	7
Instructor's Final Checklist	
LEARNING ABOUT MEDICATIONS	8

CHECK-OUT ACTIVITY

Obtain a copy of the Check-Out Activity Sheet, LEARNING ABOUT MEDICATIONS, from your instructor. Complete the test and return it to your instructor for evaluation.

Check-Out Activity Sheet	
LEARNING ABOUT MEDICATIONS	8
LEARNING ABOUT MEDICATIONS--ANSWER KEY	8

RECOMMENDED REFERENCES

Driever and McClaugherty, Working in Pharmacies (Student Manual). Austin, TX: The University of Texas at Austin, 1982.

Physicians' Desk Reference. Oradell, NJ: Medical Economics Company, Inc., 1983.

Simmers, Diversified Health Occupations. Albany, NY: Delmar Publishers, 1983.

LEARNING ABOUT MEDICATIONS

LA#	NOTES AND SUGGESTIONS FOR INSTRUCTION	REFERENCES AND SPECIAL TOOLS AND EQUIPMENT	TEACHER'S NOTES
	The VOCABULARY WORKSHEET can be given to the students as they begin work on the module. The worksheet is divided into Learning Activities. As the student completes a specified learning activity, he/she can complete the section of the VOCABULARY WORKSHEET. At the conclusion of the work on the module, you may want to review the students' definition of the terms on the worksheet. This review may be on an individual basis or it may be conducted in large or small groups of students.	--Copies of the VOCABULARY WORKSHEET. (A Master Copy is provided in this section of the manual.)	
1		RECOMMENDED REFERENCES Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 7-8. --Copies of current state and federal drug regulations.	
2	Have copies of the Physicians' Desk Reference available for the students to use to complete this learning activity. An Answer Key is provided, for the exercise of using the Physicians' Desk Reference, in this section of the manual.	RECOMMENDED REFERENCE(S) Physicians' Desk Reference.	

LEARNING ABOUT MEDICATIONS

LA#	NOTES AND SUGGESTIONS FOR INSTRUCTION	REFERENCES AND SPECIAL TOOLS AND EQUIPMENT	TEACHER'S NOTES
2	Have the students read more about using the Physicians' Desk Reference in the recommended reference.	Simmers, Diversified Health Occuppations, pp. 287-288.	
3	An Answer Key for Instruction Sheet II is provided in this section of the manual.	RECOMMENDED REFERENCES Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 28-31. AND/OR Simmers, Diversified Health Occupations, pp. 26-30.	
4		RECOMMENDED REFERENCE Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 13-14.	
5	Provide prescriptions for the students to use in completing this activity.	--5 prescriptions	
6	Have the students discuss the information learned in the readings.	RECOMMENDED REFERENCE Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 28-31.	
7	Student Self-Check		
8	Provide a copy of the Check-Out Activity Sheet for each student. Check the tests using the Answer Key provided in this section of the manual.	--Copies of the Check-Out Activity Sheet, LEARNING ABOUT MEDICATIONS. (A Master Copy and an Answer Key are provided in this section of the manual.)	

LEARNING ABOUT MEDICATIONS

LA#	NOTES AND SUGGESTIONS FOR INSTRUCTION	REFERENCES AND SPECIAL TOOLS AND EQUIPMENT	TEACHER'S NOTES
8	Use the Instructor's Final Checklist to check each student's performance.	--Copies of the Instructor's Final Checklist. (A Master Copy is provided in this section of the manual.)	

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VOCABULARY WORKSHEET

Directions: As you work through the learning activities in this module, you will be introduced to new vocabulary terms and definitions. Some of these terms are listed below by learning activity number. After or as you complete the specified learning activity, briefly write a definition or description of the terms listed.

LEARNING ACTIVITY #1

Controlled substance or controlled drug--

Drug Enforcement Administration (DEA)--

Dispense--

Distribute--

Drug--

Food and Drug Administration (FDA)--

Legend drug--

Over-the-counter drug (OTC)--

Patron, customer, patient--

Rx--

LEARNING ACTIVITY #3

Inscription--

Prescription--

Subscription--

Superscription--

VOCABULARY WORKSHEET, (page 2)

Transcription--

LEARNING ACTIVITY #6

Chemical name--

Contraindication--

Disease--

Generic name--

Indication--

Symptom--

Syndrome--

INSTRUCTION SHEET I

USING THE PHYSICIANS' DESK REFERENCE

ANSWER KEY

1. P.O. Box 5466
   Denver, Colorado 80217
2. Merck, Sharp, and Dohme
3. Eurax, Kwell (cream and lotion), or Vleminckx' Solution
4. Generic and Chemical Name Index
5. Product Identification Section
6. Capsules

INSTRUCTION SHEET II

PRESCRIPTION DRUGS IN THE PHARMACY

ANSWER KEY

1. A prescription is an order for a medicine or medications as prescribed by a doctor.

2. --The name and address of the patient
--The date of the prescription
--The superscription
--The inscription
--The subscription
--The transcription
--The doctor's signature

3. --each (aa)
--before meals (ac or a.c.)
--twice daily (b.i.d. or bid)
--blood pressure (BP)
--with (c, w, or c̄)
--capsule (cap or Cap.)
--with meals (cc)
--gram (Gm or g)
--drop (gtt)
--drops (gtts)
--at bedtime (hs or H.S.)
--nausea and vomiting (N and V)
--right eye (o.d.)
--left eye (o.s. or o.l.)
--after meals (p.c.)
--by mouth (p.o.)
--rectally (p.r.)
--as needed (prn)
--vaginally (p. v.)
--every (q)
--every day (q.d.)
--four times daily (q.i.d. or qid)
--every other day (q.o.d.)
--write (sig)
--under the tongue (sb or SL)
--one-half (ss or s̄s̄)
--at once (stat)
--three times daily (t.i.d. or tid)
--as directed (ud, ut dict.)
--until finished (UF)
--till all taken (TAT)

Note: Abbreviations may vary depending on the reference used.

CHECK-OUT ACTIVITY SHEET

LEARNING ABOUT MEDICATIONS

General Directions: Complete the following exercises. Return the completed test to your instructor for evaluation.

A. Directions: Match the definition or phrase listed in Column II with the term or abbreviation in Column I.

Column I	Column II
_____ 1. R_x	a. The written letters R_x
_____ 2. Chemical name	b. A resource about medications
_____ 3. Inscription	c. Each
_____ 4. Prescription	d. Three times daily
_____ 5. Food and Drug Administration	e. At once
_____ 6. Transcription	f. Every
_____ 7. Superscription	g. One-half
_____ 8. Generic name	h. An order for a medication
_____ 9. Physicians' Desk Reference	i. Tells what the drug is made of
_____ 10. aa	j. An agency established by Congress to enforce food and drug regulations
_____ 11. ac	k. The drug's common name
_____ 12. b. i. d.	l. Capsule
_____ 13. cap	m. Twice daily
_____ 14. gtt	n. Before meals
_____ 15. p.o.	o. Drop
_____ 16. q	p. Write
_____ 17. sig	q. By mouth
_____ 18. ss	r. The symbol for the Latin word recipe

CHECK-OUT ACTIVITY SHEET, (page 2)

____ 19. stat

____ 20. t.i.d.

s. A list of ingredients and their quantities to be used in the preparation of a prescription

t. The directions to the patient

B. Directions: Complete the following parts of the chart that have a question mark (?) using the Physicians' Desk Reference.

Brand Name	Generic/Chemical	Manufacturer	Product Classification
1. Actifed Tablets	?	?	Decongestant
2. Achromycin V Capsules	?	?	?
3. ?	?	Parke-Davis	Antacid
4. ?	Potassium Salicylate	?	?
5. Atarax	?	?	?

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CHECK-OUT ACTIVITY SHEET

LEARNING ABOUT MEDICATIONS

ANSWER KEY

A.

1.	r	11.	n
2.	i	12.	m
3.	s	13.	l
4.	h	14.	o
5.	j	15.	q
6.	t	16.	f
7.	a	17.	p
8.	k	18.	g
9.	b	19.	e
10.	c	20.	d

B.

Brand Name	Generic/Chemical	Manufacturer	Product Classification
1.	Triprolidine Hydrochloride Pseudoephedrine Hydrochloride	Burroughs Wellcome Company	
2.	Tetracycline Hydrochloride	Lederle	Antibiotic
3. Gelusil or Gelusil M Gelusil II	Aluminum hydroxide		
4. Pabalate - SF Tablets		A. H. Robins Company	Antiarthritic
5.	Hydroxyzine Hydrochloride	Roerig	Antipruritic

INSTRUCTOR'S FINAL CHECKLIST

LEARNING ABOUT MEDICATIONS

The student should be evaluated according to the performance ratings in the box. Indicate on a separate sheet of paper whether the student's performance for each item is Fully Accomplished, Partially Accomplished, Not Accomplished, or under certain circumstances, Not Applicable.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will decide which learning activities must be repeated.

Fully Accomplished	Partially Accomplished	Not Accomplished	Not Applicable

The student completed the Check-Out Activity Sheet, LEARNING ABOUT MEDICATIONS, with 90% accuracy ..... [ ] [ ] [ ] [ ]

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MAINTAINING PATIENT DRUG PROFILES

OBJECTIVE

Given a new prescription and a patient drug profile sheet, record the new prescription on the record. All items must be accurate, legible, and identical to the supervisor's patient drug profile sheet.

CONTENTS OF MODULE

Instruction Sheet	Learning Activity Number
I MAINTAINING PATIENT DRUG PROFILE SHEETS.....	2

Instructor's Final Checklist

MAINTAINING PATIENT DRUG PROFILES.....	4

CHECK-OUT ACTIVITY

Your supervisor will give you a new prescription and a patient drug profile sheet. Record the new prescription information on the patient drug profile sheet.

MAINTAINING PATIENT DRUG PROFILES

LA#	NOTES AND SUGGESTIONS FOR INSTRUCTION	REFERENCES AND SPECIAL TOOLS AND EQUIPMENT	TEACHER'S NOTES
1	Obtain copies of a patient drug profile sheet used in a pharmacy for the student's use.	--Copies of patient drug profile sheets	
2			
3		--Copies of patient drug profile sheets	
4	Provide a prescription and a patient drug profile sheet for each student's Check-Out Activity. Use the Instructor's Final Checklist to check each student's performance.	--Prescription(s) --Patient drug profile sheets --Copies of the Instructor's Final Checklist. (A Master Copy is provided in this section of the manual.)	

INSTRUCTOR'S FINAL CHECKLIST

MAINTAINING PATIENT DRUG PROFILES

The student should be evaluated according to the performance ratings in the box. Indicate on a separate sheet of paper whether the student's performance for each item is Fully Accomplished, Partially Accomplished, Not Accomplished, or under certain circumstances, Not Applicable.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will decide which learning activities must be repeated.

Fully Accomplished	Partially Accomplished	Not Accomplished	Not Applicable

In recording information, the student completed the patient drug profile sheet:

a.	Accurately.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b.	Legibly.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c.	Identically to the supervisor's patient drug profile sheet.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

COUNTING TABLETS AND POURING LIQUID MEDICATIONS

OBJECTIVES

(1) Given a prescription for tablets, locate the correct stock container and count the tablets. The tablets must be the prescribed medication, the correct strength, and the prescribed amount. The tablets must be counted using the technique established by the agency. The process must be performed under the supervision of the pharmacist.

(2) Given a prescription for a liquid medication, locate the correct stock container and pour the liquid. The liquid must be the prescribed medication, the prescribed strength, and the prescribed amount. The liquid must be poured using the technique established by the agency. The process must be performed under the supervision of the pharmacist.

CONTENTS OF MODULE

Instruction Sheet	Learning Activity Number
I COUNTING TABLETS AND POURING LIQUID MEDICATIONS...	3
Student Self-Check	
I MEASUREMENT SYSTEMS FOR MEDICATIONS.....	2
Instructor's Final Checklist	
COUNTING TABLETS AND POURING LIQUID MEDICATIONS.....	8

CHECK-OUT ACTIVITIES

(1) Your instructor will provide a prescription for tablets and access to stock containers. Count the tablets.

(2) Your instructor will provide a prescription for liquid medication and access to stock containers. Pour the liquid medication.

RECOMMENDED REFERENCE

Driever and McClaugherty, Working in Pharmacies (Student Manual). Austin, TX: The University of Texas at Austin, 1982.

COUNTING TABLETS AND POURING LIQUID MEDICATIONS

LA#	NOTES AND SUGGESTIONS FOR INSTRUCTION	REFERENCES AND SPECIAL TOOLS AND EQUIPMENT	TEACHER'S NOTES
1	You may want the student to read more about using Roman numerals and converting metric and liquid measurements using the reference by Simmers.	RECOMMENDED REFERENCE(S) Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 19-21. Simmers, Diversified Health Occupations, pp. 290-292.	
2	Student Self-Check		
3			
4-5	You may have your students to make a "map" of stock container locations in the pharmacy.		
6			
7	Practice counting tablets and pouring liquid medications.	--Stock containers --Prescriptions	
8	Provide two prescriptions (one for tablets and one for liquid medication) for the students' check-out activities. Use the Instructor's Final Checklist to check each student's performance.	--Prescriptions --Stock containers --Copies of the Instructor's Final Checklist. (A Master Copy is provied in this section of the manual.)	

MASTER COPY

INSTRUCTOR'S FINAL CHECKLIST

COUNTING TABLETS AND POURING LIQUIDS

The student should be evaluated according to the performance ratings in the box. Indicate on a separate sheet of paper whether the student's performance for each item is Fully Accomplished, Partially Accomplished, Not Accomplished, or under certain circumstances, Not Applicable.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will decide which learning activities must be repeated.

Fully Accomplished	Partially Accomplished	Not Accomplished	Not Applicable

(1) When counting tablets, the student:

a.	Located the stock container for the specified tablets.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b.	Counted the prescribed medication....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c.	Counted tablets of the prescribed strength.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d.	Counted the prescribed amount.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
e.	Used the technique established by the agency to count tablets.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

(2) When pouring a liquid medication, the student:

a.	Located the stock container.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b.	Poured the prescribed medication.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c.	Poured liquid medication of the prescribed strength.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d.	Poured the prescribed amount.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
e.	Used the technique established by the agency to pour liquid medications.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

RECOMMENDED REFERENCES LISTING FOR THE PHARMACY AIDE MODULES

On the following pages, you will find a listing of the recommended references for the pharmacy aide modules. These references are listed by module number and by learning activity number. The assigned readings must be posted for the students to use when they are going through the modules.

You may add additional readings to the listing or you may make substitutions. Where a recommended reference is specified, the student must often read the pages specified in order to be able to check out of the module. This is especially true when the check-out activity is a written test that is built around information provided in the module and in the specified pages of the recommended references. Be sure to develop the written test based on the information you require the students to read.

Additional references may also be suggested in the Instructor's Guide Sheets. They may provide complementary information at a more in-depth level or on a more basic level. You should determine which of the additional references you have available and post assignments according to the needs of your students. Either add the references to the RECOMMENDED REFERENCES LISTING. . . as additional readings or make a supplementary listing to post.

PHARMACY AIDE MODULES

MODULE NUMBER	LA #	RECOMMENDED REFERENCES
HS-PA-1	1	TOPIC: Terms and definitions that relate to careers in pharmacy Driever and McClaugherty, Working in Pharmacies (Student's Manual), p. 1.
	2	TOPIC: The history of pharmacy and the development of the professional curriculum of the pharmacist Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 1-2.
	3	TOPIC: Becoming a licensed pharmacist Driever and McClaugherty, Working in Pharmacies (Student's Manual), p. 2.
	4	TOPIC: Career opportunities in pharmacy Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 3-4. AND/OR Bureau of Labor Statistics, Occupational Outlook Handbook, 1978-79 Edition, pp. 512-515. AND/OR Birchenall and Streight, Introduction to Health Careers, pp. 129-130.
HS-PA-2	1	TOPIC: Federal and state drug legislation Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 7-8.

PHARMACY AIDE MODULES

MODULE NUMBER	LA #	RECOMMENDED REFERENCES
HS-PA-2	2	TOPIC: Using the Physicians' Desk Reference Physicians' Desk Reference. AND/OR Simmers, Diversified Health Occupations, pp. 287-288.
	3	TOPIC: Prescription drugs in the pharmacy Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 28-31. AND/OR Simmers, Diversified Health Occupations, pp. 26-30.
	4	TOPIC: The parts of the prescription Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 13-14.
	6	TOPIC: Prescription drugs in the pharmacy Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 28-31.
HS-PA-3		

PHARMACY AIDE MODULES

MODULE NUMBER	LA #	RECOMMENDED REFERENCES
HS-PA-4	1	TOPIC: "Metrology" in pharmacy Driever and McClaugherty, Working in Pharmacies (Student's Manual), pp. 19-21.

HEALTH SERVICES: CLINICAL

PHARMACY AIDE

INSTRUCTOR'S PACKAGE

MODULES HS-PA 1-4

STUDENT PACKAGE

Health Services: Clinical

LEARNING ABOUT CAREERS IN PHARMACY

INTRODUCTION

Pharmacy is the art and science concerned with the preparation of drugs for use in the treatment and/or prevention of disease. The scope and content of the pharmacy area has increased tremendously due to technological advances. In this module, you will learn about career opportunities in pharmacy.

DIRECTIONS

Read the objective below. If you think that you are already able to perform the task, read the Check-Out Activity on the back cover. Then either arrange with your instructor about doing the Check-Out Activity,

or

If you need to complete learning activities in order to be able to do the task, find the Learning Activities inside this module and go through them in the order in which they are listed.

OBJECTIVE

Given a test about careers in pharmacy, answer the questions. The test must be completed with 100% accuracy.

Kentucky Department of Education
Raymond Barber, Superintendent of Public Instruction
1983-84

LEARNING ACTIVITIES

1. READ and STUDY the terms and definitions that relate to careers in pharmacy using the reference provided by your instructor. (As you work on other Learning Activities in this module, you may need to refer to this list of terms.)

   (or)_____

2. READ about the history of pharmacy and the development of the professional curriculum of the pharmacist using the reference provided by your instructor.

   (or)_____

3. RESEARCH the answers to the questions on Instruction Sheet I, BECOMING A LICENSED PHARMACIST, using the reference(s) provided by your instructor.

   (or)_____

4. READ about career opportunities in pharmacy using the reference(s) provided by your instructor.

   (or)_____

5. READ Instruction Sheet II, THE RESPONSIBILITIES OF THE PHARMACIST ASSISTANT AND THE PHARMACY HELPER (AIDE).

   (or)_____

6. DRAW a chart which shows the organization of the personnel employed in your pharmacy department. HAVE your supervisor check your work for completeness and accuracy.

   (or)_____

7. COMPLETE Student Self-Check I, CAREERS IN PHARMACY.

8. ARRANGE with your instructor to complete this module by going through the CHECK-OUT ACTIVITY listed on the back cover.

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INSTRUCTION SHEET I

BECOMING A LICENSED PHARMACIST

Directions: On a separate sheet of paper, answer the following questions. Use the reference(s) provided by your instructor to find the answers. Check your answers against those provided by your instructor.

1. The licensing and practice of pharmacy within each state are controlled by _____.

2. Pharmacists are controlled by _____.

3. To practice pharmacy in any state, a pharmacist must be a _____ pharmacist.

4. What requirements must a person meet to obtain a license to practice pharmacy?

INSTRUCTION SHEET II

THE RESPONSIBILITIES OF THE PHARMACIST ASSISTANT AND THE PHARMACY HELPER (AIDE)

The 1977 Dictionary of Occupational Titles lists the following duties for the occupations of pharmacist assistant and pharmacy helper (aide).

DOT 074.381-010 Pharmacist Assistant:

--Mixes and dispenses prescribed medicines and pharmaceutical preparations in the absence of or under the supervision of a pharmacist.
--Compounds preparations according to the prescriptions issued by medical, dental, or veterinary officers.
--Pours, weighs, or measures dosages.
--Grinds, heats, filters, or dissolves and mixes liquid or soluble drugs and chemicals.
--Procures, stores, and issues pharmaceutical materials and supplies.
--Maintains the files and records and submits required pharmacy reports.

DOT 074.387-010 Pharmacy Helper (Aide):

Assists the pharmacist by performing the following duties:

--Mixes pharmaceutical preparations under the direction of a pharmacist.
--Prepares inventory and orders supplies to maintain stock levels.
--Receives and places supplies in stock.
--Labels drugs, chemicals, and other pharmaceutical preparations as directed by a pharmacist.
--Delivers drug orders and runs errands.
--Cleans equipment and work areas in pharmacy.
--Washes and sterilizes bottles, beakers, and other glassware according to the prescribed methods.
--Computes the charges for drugs.

STUDENT SELF-CHECK 1

CAREERS IN PHARMACY

Directions: On a separate sheet of paper, answer the following questions. Check your answers with those provided on page 6.

1. Define "pharmacy."

2. What is the length of formal education required for becoming a pharmacist?

3. Who or what controls the practice of pharmacy?

4. List two requirements that a person must meet in order to obtain a pharmacy license.

5. List four career opportunities in pharmacy.

6. List four responsibilities of the pharmacy helper (aide).

STUDENT SELF-CHECK I

CAREERS IN PHARMACY

ANSWER KEY

1. "Pharmacy" is the art and science of preparing medicine for the treatment and prevention of disease.

2. Five years

3. The State Board of Pharmacy

4. Any two of the following:
   --Be a graduate of an accredited pharmacy college.
   --Pass a state board examination.
   --Have a specified amount of experience under the supervision of a registered pharmacist.

5. Any four of the following:

   --Retail pharmacy
   --Hospital pharmacy
   --Drug wholesaling
   --Research and manufacturing
   --Pharmaceutical marketing
   --Pharmaceutical advertising
   --Professional writing
   --Teaching
   --Government service

6. Any four of the following:

   The pharmacy helper (aide) assists the pharmacist by performing the following duties:

   --Mixes pharmaceutical preparations under the direction of a pharmacist.
   --Prepares inventory and orders supplies to maintain stock levels.
   --Receives and places supplies in stock.
   --Labels drugs, chemicals, and other pharmaceutical preparations as directed by a pharmacist.
   --Delivers drug orders and runs errands.
   --Cleans equipment and work areas in pharmacy.
   --Washes and sterilizes bottles, beakers, and other glassware according to the prescribed methods.
   --Computes the charges for drugs.

INSTRUCTOR'S FINAL CHECKLIST

LEARNING ABOUT CAREERS IN PHARMACY

The student should be evaluated according to the performance ratings in the box. Indicate on a separate sheet of paper whether the student's performance for each item is Fully Accomplished, Partially Accomplished, Not Accomplished, or under certain circumstances, Not Applicable.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will decide which learning activities must be repeated.

Fully Accomplished	Partially Accomplished	Not Accomplished	Not Applicable

The student completed Check-Out Activity Sheet, CAREERS IN PHARMACY, with 100% accuracy.....	[ ]	[ ]	[ ]	[ ]

CHECK-OUT ACTIVITY

The statements below explain the activity you must be able to complete in order to finish this module. After you go through the activity, your instructor will rate your performance using the Instructor's Final Checklist, LEARNING ABOUT CAREERS IN PHARMACY.

Obtain a copy of the Check-Out Activity Sheet, CAREERS IN PHARMACY, from your instructor. Complete the test and return it to your instructor for evaluation.

Health Services: Clinical

LEARNING ABOUT MEDICATIONS

INTRODUCTION

Physicians routinely prescribe a variety of medications for the prevention, treatment, cure, or diagnosis of disease. In this module, you will learn about medications--names, standards for manufacturing and distribution, legislation, and sources of drug information. You will also learn the necessary information needed on a prescription and how to use the Physicians' Desk Reference.

DIRECTIONS

Read the objective below. If you think that you are already able to perform the task, read the Check-Out Activity on the back cover. Then either arrange with your instructor about doing the Check-Out Activity,

or

If you need to complete learning activities in order to be able to do the task, find the Learning Activities inside this module and go through them in the order in which they are listed.

OBJECTIVE

Given a test about medications, answer the questions. The test must be completed with 90% accuracy.

Kentucky Department of Education
Raymond Barber, Superintendent of Public Instruction
1983-84

LEARNING ACTIVITIES

1. READ about federal and state drug legislation using the reference(s) provided by your instructor.

   (or)_____

2. READ and STUDY Instruction Sheet I, USING THE PHYSICIANS' DESK REFERENCE.

   (or)_____

3. RESEARCH the answers to the questions on Instruction Sheet II, PRESCRIPTION DRUGS IN THE PHARMACY, using the reference(s) provided by your instructor.

   (or)_____

4. READ about the parts of the prescription and STUDY the pharmacal terms and their Latin abbreviations using the reference(s) provided by your instructor.

   (or)_____

5. OBTAIN five prescriptions from your instructor and EXAMINE them to determine if they are completely written.

   (or)_____

6. READ about prescription drugs in the pharmacy using the reference(s) provided by your instructor.

   (or)_____

7. COMPLETE Student Self-Check I, LEARNING ABOUT MEDICATIONS.

8. ARRANGE with your instructor to complete this module by going through the CHECK-OUT ACTIVITY listed on the back cover.

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INSTRUCTION SHEET I

USING THE PHYSICIANS' DESK REFERENCE

The Physicians' Desk Reference (P.D.R.) is one of the most popular resource books on medications. It is published annually. Revised supplements are distributed periodically. The use of the P.D.R. in the pharmacy will aid you in your work and will make your job more interesting.

Directions for using the Physicians' Desk Reference:

1. Open the front cover of the P.D.R. and read the directions for inserting P.D.R. supplements. Look to see if any supplements have been placed in the book.

2. Turn to Section 1, the white pages, which is the Manufacturer's Index. This index contains the names of manufacturers, their addresses, emergency phone numbers, contact persons, and a list of some available products.

3. Turn to Section 2, the pink pages, which is the Product Name Index. In this section, the products are listed alphabetically by brand name. Page numbers are provided to assist you in finding additional information on the product. The names in parentheses are manufacturers' names.

4. Turn to Section 3, the blue pages, which is the Product Classification Index. In this section, products are listed according to category, i.e., laxatives, antibiotics, etc.

5. Turn to Section 4, the yellow section, which is the Generics and Chemical Name Index. In this section, you will find products listed under their generic and chemical names according to the principal ingredient.

6. Turn to Section 5, the Product Identification Section, which is on the white glossy paper. Pictures of capsules and tablets are shown in color and according to actual size.

7. Turn to Section 6, the Product Information Section. This set of white pages, the largest in the book, contains full descriptions of numerous common pharmaceuticals.

8. Turn to Section 7, the green pages, which is the Diagnostic Product Information Section located at the back of the book. The products listed on these pages are used in various diagnostic tests and procedures.

Note: The Physicians' Desk Reference also provides a list of poison control centers and their telephone numbers.

INSTRUCTION SHEET I, (page 2)

Directions: On a separate sheet of paper, complete the following statements. Use the P.D.R. as your resource book. When you have finished, check your answers with those provided by your instructor.

1. The address of Abbot Pharmaceuticals in Denver is _____.
2. The manufacturer of Aldomet tablets is _____.
3. The names of two scabicides are _____ and _____.
4. Dextrose, a chemical, can be found listed in the _____ Index.
5. Capsules and tablets are pictured in the _____ section.
6. Teldrin is manufactured in 8 or 12 mg _____.

INSTRUCTION SHEET II

PRESCRIPTION DRUGS IN THE PHARMACY

Directions: Research the answers to the following questions using the reference(s) provided by your instructor. Write your answers on a separate sheet of paper. Check your answers with those provided by your instructor.

1. What is a prescription?

2. Name the parts of a prescription.

3. Write the Latin abbreviations for the following pharmacal terms:

--each
--before meals
--twice daily
--blood pressure
--with
--capsule
--with meals
--gram
--drop
--drops
--at bedtime
--nausea and vomiting
--right eye
--left eye
--after meals
--by mouth
--rectally
--as needed
--vaginally
--every
--every day
--every hour
--four times daily
--every other day
--write
--under the tongue
--one-half
--at once
--three times daily
--as directed
--until finished
--till all taken

STUDENT SELF-CHECK I

LEARNING ABOUT MEDICATIONS

Directions: Answer the following questions on a separate sheet of paper. Check your answers against those provided on page 7.

1. What does R_x mean?
2. The _____ is an agency established by Congress to enforce the Food, Drug, and Cosmetic Act.
3. (TRUE or FALSE) The FDA has the power to regulate, discipline, and control, as well as to inflict punishment and impose penalties.
4. The regulation of the practice of pharmacy is a function of the _____ government.
5. The _____ is one of the most popular resource books on medications.
6. The _____ of a prescription is the written letters, R_x.
7. The _____ of a prescription is the list of the ingredients and their quantities to be used in preparing the prescription.
8. The _____ of a prescription consists of the directions to the patient.
9. Drugs usually have three different names. What are the names?
10. What are dosage forms in which drugs may be administered?

STUDENT SELF-CHECK I

LEARNING ABOUT MEDICATIONS

ANSWER KEY

1. prescription
2. Food and Drug Administration
3. FALSE; the FDA has no authority to inflict punishment or impose penalties.
4. state
5. Physicians' Desk Reference
6. superscription
7. inscription
8. transcription
9. --generic name
   --chemical name
   --trade or brand name
10. --solid
    --liquid
    --gaseous

INSTRUCTOR'S FINAL CHECKLIST

LEARNING ABOUT MEDICATIONS

The student should be evaluated according to the performance ratings in the box. Indicate on a separate sheet of paper whether the student's performance for each item is Fully Accomplished, Partially Accomplished, Not Accomplished, or under certain circumstances, Not Applicable.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will decide which learning activities must be repeated.

	Fully Accomplished	Partially Accomplished	Not Accomplished	Not Applicable
The student completed the Check-Out Activity Sheet, LEARNING ABOUT MEDICATIONS, with 90% accuracy	[ ]	[ ]	[ ]	[ ]

CHECK-OUT ACTIVITY

The statements below explain the activity you must be able to complete in order to finish this module. After you go through the activity, your instructor will rate your performance using the Instructor's Final Checklist, LEARNING ABOUT MEDICATIONS.

Obtain a copy of the Check-Out Activity Sheet, LEARNING ABOUT MEDICATIONS, from your instructor. Complete the test and return it to your instructor for evaluation.

Health Services: Clinical

MAINTAINING PATIENT DRUG PROFILES

INTRODUCTION

Patient drug profile records are kept on every patient receiving prescriptions from the pharmacy. In this module, you will learn how to maintain patient drug profiles.

DIRECTIONS

Read the objective below. If you think that you are already able to perform the task, read the Check-Out Activity listed on the back cover. Then either arrange with your instructor about doing the Check-Out Activity,

or

If you need to complete learning activities in order to be able to do the task, find the Learning Activities inside this module and go through them in the order in which they are listed.

OBJECTIVE

Given a new prescription and a patient drug profile sheet, record the new prescription on the record. All items must be accurate, legible, and identical to the supervisor's patient drug profile sheet.

Kentucky Department of Education
Raymond Barber, Superintendent of Public Instruction
1983-84

LEARNING ACTIVITIES

1. REVIEW a patient drug profile sheet provided by your supervisor.

   (or)_____

2. READ Instruction Sheet I, MAINTAINING PATIENT DRUG PROFILE SHEETS.

   (or)_____

3. PRACTICE preparing patient drug profile sheets. HAVE your supervisor critique your work.

4. ARRANGE with your supervisor to complete this module by going through the CHECK-OUT ACTIVITY listed on the back cover.

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INSTRUCTION SHEET I

MAINTAINING PATIENT DRUG PROFILE SHEETS

Most patient-oriented pharmacies maintain accurate prescription records. These records, called patient drug profile sheets, are useful for insurance purposes and for recording other pertinent information about the patient. Occasionally, these records may prove to be lifesaving in that possible allergic drug reactions may be noted and avoided in future prescriptions. The pharmacist may also check for any other medications the patient may be on that may adversely affect the action of the prescription and thus affect the patient. In modern medical practice, no one person has the mental recall to keep track of the various medications for each individual. It is the duty of the pharmacist to fill this information void.

Patient drug profile sheets list a record of the date, physician's name, name of the medication, number of refills, date of refills, amount of medication, drug allergies, etc.

Some general rules for maintaining patient drug profile sheets include the following:

--Pull the patient drug profile sheet upon receipt of the prescription from the patient. This gives the pharmacist a moment to review past prescription history and to check for allergies, sensitivities, etc.

--Accurately record the new purchase(s) on the patient drug profile sheet.

--Never guess at the strength of a Rx when recording. The difference in strength caused by a misplaced decimal point can be traumatic. If you have any questions about the information you are recording, ask the pharmacist.

--Write legibly.

INSTRUCTOR'S FINAL CHECKLIST

MAINTAINING PATIENT DRUG PROFILES

The student should be evaluated according to the performance ratings in the box. Indicate on a separate sheet of paper whether the student's performance for each item is Fully Accomplished, Partially Accomplished, Not Accomplished, or under certain circumstances, Not Applicable.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will decide which learning activities must be repeated.

Fully Accomplished	Partially Accomplished	Not Accomplished	Not Applicable

In recording information, the student completed the patient drug profile sheet:

a.	Accurately.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b.	Legibly.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c.	Identically to the supervisor's patient drug profile sheet.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

CHECK-OUT ACTIVITY

The statements below explain the activity you must be able to complete in order to finish this module. As you go through the activity, your instructor will rate your performance using the Instructor's Final Checklist, MAINTAINING PATIENT DRUG PROFILES.

Your supervisor will give you a new prescription and a patient drug profile sheet. Record the new prescription information on the patient drug profile sheet.

Health Services: Clinical

COUNTING TABLETS AND POURING LIQUID MEDICATIONS

INTRODUCTION

The pharmacy aide may be asked to assist the pharmacist in preparing prescriptions. In this module, you will learn how to count tablets and pour liquid medications.

DIRECTIONS

Before you start to work on this module, be sure you have completed Module HS-PA-2, "Learning About Medications." Then, read the objectives below. If you think that you are already able to perform these tasks, read the Check-Out Activities on the back cover. Then either arrange with your instructor about doing the Check-Out Activities,

or

If you need to complete learning activities in order to be able to do the tasks, find the Learning Activities inside this module and go through them in the order in which they are listed.

OBJECTIVES

(1) Given a prescription for tablets, locate the correct stock container and count the tablets. The tablets must be the prescribed medication, the correct strength, and the prescribed amount. The tablets must be counted using the technique established by the agency. The process must be performed under the supervision of the pharmacist.

(2) Given a prescription for a liquid medication, locate the correct stock container and pour the liquid. The liquid must be the prescribed medication, the prescribed strength, and the prescribed amount. The liquid must be poured using the technique established by the agency. The process must be performed under the supervision of the pharmacist.

Kentucky Department of Education
Raymond Barber, Superintendent of Public Instruction
1983-84

LEARNING ACTIVITIES

1. READ and STUDY about "metrology" in pharmacy using the reference(s) provided by your instructor.

   (or)_____

2. COMPLETE Student Self-Check 1. MEASUREMENT SYSTEMS FOR MEDICATIONS.

3. READ Instruction Sheet 1, COUNTING TABLETS AND POURING LIQUID MEDICATIONS.

   (or)_____

4. STUDY and LEARN the system of storing stock containers of medication in your pharmacy.

   (or)_____

5. PRACTICE retrieving and replacing stock containers according to the method of your agency.

6. OBSERVE a pharmacist counting tablets and pouring liquid medications.

   (or)_____

7. PRACTICE counting tablets and pouring liquid medications.

8. ARRANGE with your instructor to complete this module by going through the CHECK-OUT ACTIVITIES listed on the back cover.

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STUDENT SELF-CHECK I

MEASUREMENT SYSTEMS FOR MEDICATIONS

Directions: Complete this test on a separate sheet of paper. Check your answers with those provided on page 5.

1. Define "metrology."

2. Name the four systems of measurement used in pharmacy.

3. Provide the Arabic equivalent for the following Roman numerals:

   a. I
   b. IV
   c. X
   d. V
   e. M
   f. C
   g. VIII
   h. D
   i. IX
   j. XL

4. (TRUE or FALSE) The units of measure in the apothecary system have no simple, consistent relationship to each other as those in the other systems.

5. The _____ system of weight is used in commerce and industry in the United States.

6. The metric system is a _____ system of weights and measures. It is composed of three primary units: _____, _____, and _____.

7. Percent means _____.

INSTRUCTION SHEET I

COUNTING TABLETS AND LIQUID MEDICATIONS

The pharmacy aide may be asked to count tablets or to pour liquid medication for the pharmacist. The pharmacy aide may also bring the appropriate drug to the counter for this purpose, but under NO circumstances should the drug be dispensed without the careful scrutiny of the pharmacist. Not only is this a necessary practice, but it is also a legal matter of the pharmacy.

The pharmacist must check each prescription before it leaves the counter. In some drugstores, the pharmacy aide prepares the prescription label for the pharmacist. While this is not clearly legal, it is permissible under present law. Most pharmacists prefer to prepare the label while the pharmacy aide counts tablets or pours liquid medications. The reasons for this are twofold. First, it is much faster for the pharmacist to read the doctor's instructions as he/she types the label than to read both the directions and the completed label to check the prescription before it leaves the store. Secondly, most pharmacists have more experience in reading and interpreting the doctor's orders in a fashion which is understandable to the patient.

General considerations for counting tablets and pouring liquid medications include the following points:

--Many physicians indicate in Roman numerals the quantity to be dispensed. Therefore, the pharmacy aide must understand Roman numerals.

--Some measurements, unique to pharmacy, are expressed by the apothecary system of measurement. A working knowledge of this system of measurement is necessary.

--The pharmacy aide must be thoroughly familiar with the metric system.

The Steps for Counting Tablets

1. Read the prescription.
2. Locate the stock container for the specified tablets (kind and strength).
3. Count the prescribed amount.

OR

Follow the technique established by the agency for counting tablets.

The Steps for Pouring Medications

1. Read the prescription.
2. Locate the stock container for the specified liquid medication (kind and strength).
3. Follow the technique established by the agency for pouring the prescribed amount of liquid medication.

STUDENT SELF-CHECK I

MEASUREMENT SYSTEMS FOR MEDICATIONS

ANSWER KEY

1. "Metrology" is the science of weights and measures.

2. --the apothecary system
   --the avoirdupois system
   --the metric system
   --the common household system

3. a. 1
   b. 4
   c. 10
   d. 5
   e. 1000
   f. 100
   g. 8
   h. 500
   i. 9
   j. 40

4. TRUE

5. Avoirdupois

6. decimal; meter, liter, gram

7. parts per hundred

INSTRUCTOR'S FINAL CHECKLIST

COUNTING TABLETS AND POURING LIQUIDS

The student should be evaluated according to the performance ratings in the box. Indicate on a separate sheet of paper whether the student's performance for each item is Fully Accomplished, Partially Accomplished, Not Accomplished, or under certain circumstances, Not Applicable.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will decide which learning activities must be repeated.

Fully Accomplished	Partially Accomplished	Not Accomplished	Not Applicable

(1) When counting tablets, the student:

a.	Located the stock container for the specified tablets.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b.	Counted the prescribed medication....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c.	Counted tablets of the prescribed strength.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d.	Counted the prescribed amount.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
e.	Used the technique established by the agency to count tablets.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

(2) When pouring a liquid medication, the student:

a.	Located the stock container.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b.	Poured the prescribed medication.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c.	Poured liquid medication of the prescribed strength.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d.	Poured the prescribed amount.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
e.	Used the technique established by the agency to pour liquid medications.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

CHECK-OUT ACTIVITIES

The statements below explain the activities you must be able to complete in order to finish this module. As you go through each activity, your instructor will rate your performance using the Instructor's Final Checklist, COUNTING TABLETS AND POURING LIQUID MEDICATIONS.

(1) Your instructor will provide a prescription for tablets and access to stock containers. Count the tablets.

(2) Your instructor will provide a prescription for liquid medication and access to stock containers. Pour the liquid medication.